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# Factors That Affect The Implementation Of The New Jersey Technology Related Assistance For Individuals With Disabilities Act

Tekelah C. Sherrod  
*Seton Hall University*

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FACTORS THAT AFFECT THE IMPLEMENTATION OF THE NEW JERSEY  
TECHNOLOGY RELATED ASSISTANCE FOR INDIVIDUALS WITH  
DISABILITIES ACT

BY

TEKELAH C. SHERROD

Dissertation Committee

Elaine Walker, Ph.D., Mentor  
Daniel Gutmore, Ph. D.  
Edith V. Francis, Ed. D.  
Wanda J. Roundtree, Ed. D.

Submitted in partial fulfillment of the  
requirements of the Degree of Doctor of Education  
Seton Hall University

2001

## ACKNOWLEDGEMENTS

"I don't feel no ways tired, I've come too far from where I started from. Nobody told me the road would be easy, I don't believe he brought me this far to leave me . . ."  
Thank You Lord, for your blessings.

Ma, I often wonder how different life would have been had you pursued your dreams. Thank you for loving me enough to allow me to pursue my own dreams.

To my father, thank you for just being "My Daddy".

To Bernice, thank you for helping me to see the possibilities when it all seemed so impossible.

To my sister Belinda, thank you for your growth and years of "yammering". A very special "thank you" to you and Kendell for bringing Imani into our lives.

To my brother Seadrick, your strength is admirable. Thank you for our intense conversations, your understanding is never ending.

To my brother Demetrius, one day you'll find what you're searching for. Just know that I'll be there to celebrate with you.

To my sister-friend Robyn, you've always said that you want to be just like me when you grow up. I hope that's still true. You and Joseph are special to me and I'm so thankful that you've made Nia a part of my life.

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## DEDICATION

For Imani and Nia,  
Auntie loves you

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## CHAPTER I

### INTRODUCTION

In recent years, assistive technology (AT) has received increased attention for its potential benefits to individuals with disabilities. Through the use of AT, children with disabilities can be included in a wide variety of activities that might not otherwise be available or accessible to them (Todis, 1996). The use of AT devices and services has proven to enhance their quality of life and result in greater independence in family and community settings.

IDEA was amended in 1997 and New Jersey revised its Administrative Code (6A:14) in 1998 legislating that the school districts implement the new IDEA regulations as well as the additional New Jersey regulations that were above and beyond those of IDEA. The 1997 amendments to IDEA were Congress' attempt to alleviate what was believed to be the adversarial nature of special education by encouraging parents and educators to communicate through newly established planning meetings.



The 1997 regulations of IDEA (Individuals with Disabilities Education Act) emphasize the importance of technology. There are two major considerations to the reauthorization (Bryant & O'Connell, 1998) regarding the implementation of assistive technology. First, it is explicitly stated that the IEP team considers whether the student with a disability requires AT devices and services. Decisions that involve students with disabilities must be based on a thorough evaluation of the effect AT will have on their lives (Todis, 1996). AT has always been available if it was recommended as the result of a special evaluation. In most cases AT was provided if a parent or outside agency advocated for the device or service. As a result of the reauthorization, the consideration for AT must be for all students identified as having a disability and included as part of the IEP planning process.

The second major revision to IDEA is the development of strategies and techniques that will allow the student with disabilities to participate in the regular education setting. Prior to the amendments, students with disabilities were often removed from the general education setting and placed into special education programs. These students were often isolated from their peers, there were few if any, opportunities for social and emotional growth.

Such placements were often developmentally inappropriate. Instruction was delivered by utilizing a curriculum specially designed for special education students. Placements for students with disabilities were justified by identifying what was considered to be the "harmful effects" of the student remaining in the general education setting; and by identifying the "potential benefits" for placement in a special education setting.

The amendments of IDEA emphasize the inclusion of students with disabilities into regular education programs rather than exclusion, which was the practice in the past. This means that every student with a disability should be given an opportunity to be educated with his/her peers in the least restrictive environment (LRE), the school in which he/she would attend if they did not have a disability. If necessary, the student may receive program accommodations and modifications in the general education program to ensure a free appropriate public education (FAPE). These accommodations and modifications may include AT. School districts are now held accountable for the delivery of instruction using the same curriculum as the general population. AT can be a means of improving the quality of performance for many students and is a necessity for some students to receive a free appropriate public

education (Lewis, 1998).

The New Jersey State Board of Education has adopted the Core Curriculum Content Standards (CCCS) and cumulative progress indicators to form the basis of curriculum, instruction, and assessment in New Jersey schools. The CCCS define the knowledge and skills that all students are expected to acquire by the completion of their thirteen years in public school education (New Jersey Department of Education, 1999). In an effort to ensure high expectations for every child, all students are required to be included in the measures of educational assessments as amended in IDEA '97 (Kearns, Kleinherst & Kennedy, 1999). If students with disabilities need AT to acquire and maintain the standards outlined in the curriculum, then it is the responsibility of the school district to provide the device and services, including modifications and accommodations. IEP team members must be knowledgeable about AT devices and services as it relates to the educational needs of the student. Depending on the severity of the student's disability, the IEP team must first address the least intrusive use of AT for the student. The intent is to assist the student to function in the general population to the maximum, extent possible (Webb, 2000).

Under the Technology Related Assistive for Individuals

legislation as the Individuals with Disabilities Act.

Laws enacted in the early twentieth century changed the educational opportunities for children with special needs, but many of the students did not receive an effective or appropriate education. The advocacy movement on behalf of individuals with disabilities was critical to the development of special education services, as we know them today. Beginning in the late 1960's and early 1970's, parents and advocates began to use the courts in an attempt to force states to provide equal educational opportunities for children with disabilities. These efforts to change existing policies were effective and eventually led to the passage of federal legislation and subsequent state regulations that impacted the education of children with disabilities.

The purpose of this research is to focus on access of assistive technology devices and services to students with disabilities on a continuum. The research will also focus on the impact of IDEA'97 and the delivery of services, teacher preparation and availability of resources. It is expected that this research will provide strategies for approaching these concerns regarding the delivery system of AT for students in educational settings. Finally, this research will analyze AT services from the perspective of

agencies that advocate on behalf of the students and their families.

The law is very clear, if a student needs AT in order to satisfy the requirements of the Individualized Education Program (IEP) and a Free and Appropriate Public Education (FAPE), the device or service must be provided at no cost to the family. However, in spite of legislation intended to promote assess and use, parents and students still confront considerable barriers to accessing the AT delivery system.

Application of assistive technology is costly. The equipment itself may involve a substantial outlay of funds for purchase and maintenance. School personnel that see the benefit of AT are often in conflict with the district's budgetary constraints. The most appropriate device for a student may exceed what the district is willing to fund.

Classroom teachers hold the key to successful integration of AT into the classroom setting. A deterrent to integrating assistive technology into the curriculum is the lack of teacher training. School personnel often lack training and time for researching appropriate AT use in the school setting (Scherer, 1991). Scherer also suggests that information concerning AT is not always available to educators in a format that is readily accessible or easy to understand. Training is critical. Without the opportunity

to learn proper use of the equipment, teachers may be uncomfortable integrating the technology into the classroom setting. Since the reauthorization of IDEA provides for AT and professional training as part of the IEP process, districts will need to begin to provide professional training and support for classroom teachers. Consideration must be given for teachers both in the general education and special education settings.

Advocates and organizations are making a strong move to ensure that all children with disabilities have access to AT devices and services. AT resources are growing yearly and include national and local agencies, educational companies, and other supporters (Webb, 2000). These agencies often argue that AT is needed to ensure that the student with a disability is guaranteed FAPE. One may question to what extent did the federal legislation intend for school districts to provide AT for students.

Public policy will determine whether access to technology and the quality of education provide "opportunities or barriers", "promises or challenges" (Camper, Giles-Gee, Johns, & Lecca, 1994). Interaction among access to technology, quality of education, and public policy extends beyond hardware and software to include transmission (telephone, cable, electronic mail,

etc.). According to these authors, some consideration should be given to how public policy that foster market competition, including the establishment of guidelines and standards for access to and charges by transmission carriers, would affect user cost. They contend that public interest, convenience, and necessity will have some impact on fees charged by the transmission carriers. Informed advocates may also have some impact on the rule making and regulation processes of the Federal Communications Commission and state Public Utility Commission tariff decisions. These authors advise that attention should be given to public policies that could influence the regulations governing the costs of transmission and service for individuals using the "information super highway". Educators are encouraged to actively participate in forums that set policy priorities that will foster equal access to technology for all students.

Districts are faced with many policy paradoxes as they work towards implementing the IDEA regulations. The state and federal government directs school districts to provide services, but they do not provide adequate funding to pay for these services. Accountability and compliance force the district into a fiduciary framework for making policy, especially if the AT device or service is at the request of

the parent. Parents may base their request on evidence documented in an evaluation or simply refer to the code which mandates the provision of services. Section 6A: 14-3.7 of the code states that the IEP Team should consider whether the student requires assistive technology devices and services. These services are not always needed but the language in evaluations often leads to misinterpretations of the code. Parents often request the purchase of a particular device without considering the actual benefit of its use in the classroom setting. The District's position may be that the child will not benefit from the device and that other accommodations may be made to address the child's needs. Parents may argue that the District's denial of the AT device interferes with their child's right to a free appropriate public education (FAPE).

States are obligated to insure that local districts implement the provision of IDEA. Certain provisions were left to individual state interpretation, however other provisions were to be implemented without question. The main question the states are now grappling with is how to find funding sources for the federally mandated, yet not federally financed provisions. Barriers like funding and the lack of information make AT devices and services inaccessible to children with learning disabilities. The



intent of the Technology Related Assistance for Individuals with Disabilities Act (The Tech Act) is to bridge the gap and make resources available so that AT devices and services are obtainable.

The new regulations in IDEA should increase the number of students identified who could benefit from assistive technology. However, there must be a collaborative effort of understanding the needs of the disabled student among parents, teachers, IEP teams and school administrators.

AT programs and services delivered by the Tech Act Projects have made AT devices and services available to a number of children. Unfortunately, there remains a population of children who are not being served for various reasons. Considering the changes in the IDEA regulations, what promise do we hold for the increase in students that will be identified and will benefit from AT devices and services? Advocacy efforts will be increased to ensure that students with disabilities receive the recommended device and services. There will be a tremendous impact on how school districts allocate funds to support AT services and professional training to include evaluations and delivery of instruction.

The policy and finance issues surrounding special education are the subjects of ongoing debate in the world

of public education. The intent of IDEA'97 is to protect the rights of children with disabilities, however various strains have been placed on the districts responsible for providing the education. The new federal and state regulations significantly alter the procedural and financial obligations of districts as they strive to provide the most appropriate public education for all children.

The new challenges of IDEA'97 may increase the need for support and services from the Tech Act Projects. Such a demand may impact on the availability of direct services to parents and children with disabilities. Will the Tech Act projects continue to accommodate families to ensure that the AT delivery system is accessible to all students with disabilities?

The importance of providing appropriate learning opportunities for every student has become abundantly clear. Adaptations enable full access to computers for all students with disabilities in an effort to demonstrate their capabilities. The idea of using the computer as an empowering tool to help students gain control over their learning is becoming widely accepted (Ryba, Selby & Nolan, 1995). However, the computer is only one tool that may be used to enable students to maximize their potential.

The definition of AT is a relative term. The new law provides little guidance for school districts in meeting the mandate. The requirement raises questions about implementation of the requirements, staff development, and available resources.

#### Limitations of the Study

1. The study does not specifically examine how the use of AT devices and services influence learning.
2. The study does not examine how instruction is delivered.
3. The study is based on the perspective of agencies that advocate on the behalf of parents and students. Parents, students, teachers, child study team members, and IEP teams are not interviewed.

#### The Research Question

What significant factors impact on the New Jersey Tech Act Project and access to the delivery of assistive technology devices and services to children with disabilities in educational settings?

#### Subsidiary Questions

The study will focus on broad areas of research in the state of New Jersey. The following research questions were generated for the purpose of this study.

1. What is the impact of IDEA on the services provided by

agencies that are supported by the Technology Related Assistance for Individuals with Disabilities Act?

(What are the legislative requirements?)

2. How do local agencies support the delivery of assistive technology services to children with disabilities?

(What is the mechanism for accountability?)

3. Have the goals and objectives of the Technology Related Assistance for Individuals with Disabilities Act been realized in the state of New Jersey?

4. How does the state of New Jersey fund the assistive technology needs of children with disabilities? (How are programs and services funded?)

#### Definition of Terms

1. Assistive technology device- any device, piece of equipment, or product system, whether acquired commercially or off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.

2. Assistive technology service - any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device.

The term includes: (a) the evaluation of the needs of a student with a disability, including a functional evaluation of the student in his or her customary

environment; (b) purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by students with disabilities; (c) selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing or replacing assistive devices; (d) coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs; and (e) training or technical assistance for a student with a disability or, if appropriate, that the student's family; and training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers or other individuals who may provide services to, employ, or are otherwise substantially involved in the major life functions of students with disabilities.

3. Individual Educational Program (IEP) - a written plan developed at a meeting according to N.J.A.C. 6A; 4-2.3(h) which sets forth present levels of performance, measurable annual goals and short term objectives or benchmarks and describes an integrated, sequential program of individually designed instructional activities and related services necessary

to achieve the stated goals and objectives.

4. IEP Team - the group of individuals who are responsible for the development, review and revision of the student's individualized educational program.
5. Free and Appropriate Education (FAPE) - the term "free appropriate public education" means special education and related services that: (a) are provided at public expense, under public supervision and direction, and without charge; (b) meet the standards of the State Educational Agency; (c) include preschool, elementary school, or secondary school education in the State involved; and (d) are provided in conformity with an IEP that meets the requirements of accountability (§300.350)
6. Least Restrictive Environment (LRE) - placement for a disabled student in a "regular" versus "special" education placements shall focus on the relative academic benefits and the non-academic benefits of the placement: (a) Consideration is given to any potential harmful effect on the student or on the quality of services that the disabled student needs; and (b) student with a disability is not removed from education in an age-appropriate regular classroom solely because of needed modification in the general curriculum.
7. Related Services - transportation and such

developmental, corrective, and other supportive services as are required to assist a student with a disability to benefit from special education as specified in the student's IEP, and includes speech language pathology and audiology services, psychological services, physical and occupational therapy, recreation, early identification and assessment of disabilities in children, counseling services including rehabilitation counseling, orientation and mobility services, and medical services for diagnostic or evaluation purposes. The term also includes school nursing services, social work services in schools and parent counseling and training that is related to the education of the student.

8. Special Education - specially designed instruction to meet the educational needs of students with disabilities including , but not limited to, subject matter instruction, physical education and vocational training.
9. Student with a Disability - a student who has been determined to be eligible for special education services and related services.

## CHAPTER II

### REVIEW OF THE LITERATURE

The 1997 reauthorization of IDEA (Individuals with Disabilities Education Act) emphasizes the importance of assistive technology (AT). The law requires that AT devices and services be considered for all children identified as having a learning disability (N.J.A.C.6A: 14-3.7). This is a significant shift in how educators view AT (previously thought to be exclusively within a rehabilitative or remediative context). Assistive technology is frequently thought to be relevant primarily to those with physical disabilities, sensory or health impairments, and communication disorders, however this provision applies equally to students with learning disabilities (Blackhurst & Edyburn, 2000). Assistive technology must now be considered as a viable tool for expanding access to the general education curriculum for all children with disabilities.

#### Legislation

Federal legislation mandates access to Assistive Technology (AT) devices and services for students with



disabilities. Specifically, the individual education program (IEP) team must consider whether a child requires assistive technology devices and services (Smith & Jones, 1999; Parette, VanBiervliet & Hourcade, 2000; Webb, 2000). If the team determines that an evaluation for AT is needed, it is the district's responsibility to provide the evaluation and to ensure that it is conducted by a qualified evaluator.

The new regulation demonstrates the importance of assistive technology as a tool to assist children with disabilities in their overall growth and development. The school district personnel must determine the students' technology needs and address those needs in their Individual Educational Program (IEP). The assistive technology needs of all students receiving special education services must be considered not just students for whom the IEP team determines that assistive devices or services are necessary. The potential benefits of assistive technology for students with physical and cognitive disabilities have been widely noted. Unfortunately, the implementation of such device can often be discouraged by the extent in which problems associated with a device may impede rather than promote the inclusion of a student with a disability.

The IDEA regulations for assistive technology are a reaction to such federal legislation as the Technology-Related Assistance for Individuals with Disabilities Amendments of 1994 (known as the Tech Act). The Individuals with Disabilities Education Act (IDEA) is the amended version of the Education for All Handicapped Children Act of 1975. The law encompasses and expands upon earlier education initiatives and guarantees rights and assurances for infants, toddlers, children, and youth and young adults with disabilities (The Alliance for Technology Access, 1994). The law includes provisions of preschool children ages three to five years in addition to the school age population. It also provides for the Early Intervention State Grant Program for children from birth to age two. For these children, assistive technology may be specified in the IEP to include toys and other devices that develop readiness skills. The inclusion of the definitions for assistive technology devices and services in IDEA made it clear to parents, consumers, and services providers that AT should be considered as an integral component for developing educational programs for children with disabilities (Ashton, 2000).

The overall purpose of the Tech Act is to provide financial assistance to states to help them to expand the

availability of assistive technology devices and services for individuals with disabilities (Bryant & Seay, 1998). The Tech Act projects do not provide direct services to children, they engage in advocacy to preserve the child's right to assistive technology devices and services. The intent of the act is to encourage collaborative initiatives among states and local agencies to eliminate barriers to access. The Tech Act mandates accessibility and accommodations for individuals with disabilities to promote integration and full participation in society (Bryant, Erin, Lock, Allan, James & Resta, 1998).

During the period of 1975 to 1988 the field of special education was progressing in defining principles and methodologies of assistive technology (AT), but lacked clear direction in legal policies (Fisher & Gardner, 1999). Research in the area of AT points out that although general guidelines have been written by states, specific guidelines on its implementation reveal considerable variance in development and clarification (Bell & Blackhurst, in press; Reid, 1994; Fisher & Gardner, 1999).

Prior to the Tech Act, congress passed numerous laws to protect the civil rights of people with disabilities (The Alliance for Technology Access, 1994). Among many other benefits, these pieces of legislation provide access

to assistive and conventional technology for individuals with disabilities. Beginning with the Rehabilitation Act of 1973 and the Education for All Children Act of 1975 (EHA), these laws established pivotal concepts of "reasonable accommodation and least restrictive environment", which opened the door for AT devices and services as a consideration in an effort to provide individuals with disabilities access to employment, public education and postsecondary opportunities (Cook & Hussey, 1995; Fisher & Gardner, 1999). It should be noted that the terms AT devices and services did not exist in the EHA nor the Rehabilitation Act; technology was implied as an educational component based on the interpretation of key provisions in the laws at the time (Fisher & Gardner, 1999).

Other laws included the Americans with Disabilities Act of 1990 and the Rehabilitation Act Amendments of 1992. The Americans with Disabilities Act (ADA) of 1990 provides civil rights protection against discrimination for individuals with disabilities similar to the protection provided in other legislation on the basis of race, gender, age nationality, and religion (The Alliance for Technology Access, 1994). The ADA defines a disability as any condition that impairs major life activities such as

seeing, hearing, walking, or working. It also covers specific disabilities. It mandates accessibility and accommodation requirements in public facilities, employment, state and local government services, transportation, and communication.

Under ADA, an employer with 15 or more employees may not discriminate against an individual with a disability if the person is qualified to perform the essential functions of the job with or without reasonable accommodation (The Alliance for Technology Access, 1994). The ADA defines "reasonable accommodations" as some modification in a job's task or structure, or in the workplace, which will enable the qualified disabled employee to do the job. The modifications or changes, which can include assistive technology, must be made, unless the change creates a hardship for the employer. The Americans with Disabilities Act also requires public entities, such as schools, to provide physical and programmatic access to all services offered. This means that schools must make their buildings and programs accessible to children with disabilities. The school may use assistive technology or other means to make necessary accommodations.

The Rehabilitation Act Amendment of 1973, amended in 1992, abolished many barriers to gaining access to the

rehabilitation services for individuals with severe disabilities (The Alliance for Technology Access, 1994). The law is based on the presumption that anyone with a severe disability has the ability to achieve employment and other rehabilitation goals. According to this source, under this law, "individuals with even the most significant disabilities should be presumed capable of gainful employment and provided supports to do so". Vocational rehabilitation agencies must provide services unless the agency can "unequivocally demonstrate" that no possibility of employment exists for a particular individual. This decision after careful consideration is made for training, assistive technology, reasonable accommodation, and other supports. As a result, all state vocational rehabilitation agencies are required to provide a broad range of technology services on a statewide basis. The technology needs of every individual affiliated with a vocational rehabilitation agency must be addressed in the Individual Written Rehabilitation Program (IWRP). The IWRP must provide a statement describing the specific rehabilitation services that should be provided to assist in the implementation rehabilitative goals and objectives.

The Technology Related Assistance for Individuals with Disabilities Act, passed in 1988, is the first piece of

federal legislation that focused exclusively on making assistive technology supports more readily available to people with disabilities (Fein, 1996; Fisher & Gardner, 1999). In addition to establishing a systems change program of statewide technology assistance centers for AT consumers (Cook & Hussey, 1995; Fisher & Gardner, 1999), for the first time, AT and services became clearly and directly identified as part of the continuum of services for individuals with disabilities (Galvin & Wodshall, 1996; Fisher & Gardner, 1999). It also established a legal definition of AT devices and AT services and instituted provisions that identified and defined the selection, acquisition, or use of AT services, by specifying a broad spectrum of services (Fisher & Gardner, 1999). Known as the Tech Act, its original purpose was to assist states with the provision of consumer-responsive, cross-age, and cross-disability programs of technology-related assistance (Bryant and O'Connell, 1998).

In this legislation, Congress stated that the provisions of assistive technology devices and services to individuals with disabilities enable individuals to (Wehmeyer, 1999): have greater control over their lives; participate in and contribute more fully to activities in their home, school and work environments, and in their

communities; interact to a greater extent with non-disabled individuals; and otherwise benefit from opportunities that are taken for granted by individuals who do not have disabilities.

To facilitate change, Congress allocated financial resources to states for the establishment of statewide projects that would be responsible for improving each state's AT service delivery systems. These state projects are known as Tech Act Projects. In its first year, the Tech Act of 1989 provided grants to nine states; it was not until 1995 that all states received funding (Bryant & Seay, 1998). The state of New Jersey received its funding in 1992.

The Tech Act contains five titles that provide the framework for developing a nationwide system for consumer access to assistive technology devices and services (Bryant & Seay, 1998). Title I provide grants to states for developing and implementing statewide assistive technology programs that are consumer responsive.

Title II provides for the development of a national classification system to obtain data on assistive technology devices and services across public programs and information and referral networks. The effectiveness of Title II has been limited since no funds have been



allocated since 1991.

The intent of Title II was to develop alternative funding mechanisms by supporting low-interest loans and recycling programs. According to Bryant and Seay, it should be noted that no funds have been appropriated for Title II, making its presence in the Tech Act moot.

Title IV provides information pertaining to amendments in the Individuals with Disabilities Education Act, the Rehabilitation Act of 1973, Administrative Requirements under the Head Start Act, and the Technical and Conforming Amendments which are edits of the Rehabilitation Act of 1973 (Bryant & Seay, 1998).

Title V provided a starting date of October 1, 1994 for the Tech Amendments (Bryant & Seay, 1998). The Tech Act Amendments of 1994 focused on the development of programs related to systems change and advocacy. These programs should be developed to focus on public awareness and training, policy analysis, explore various funding options for AT, and encourage interagency collaboration on AT service delivery (Bryant & O'Connell, 1998). Although public awareness and availability for AT devices and services have increased, access to AT in education and rehabilitation programs was limited. In response to those concerns, a protection advocacy component was included in

the reauthorization of the Tech Act (Bryant & O'Connell, 1998). As a result, each state was mandated to contract with its protection and advocacy system to ensure that the legal rights of people with disabilities are being upheld in regard to access AT devices and services.

The Technology-Related Assistance for Individuals with Disabilities Act of 1988, amended in 1994, established a national funding mechanism for comprehensive state systems to support the AT delivery system (Parette, VanBiervliet, & Hourcade 2000). Such legislation provided the stimulus for the subsequent federal mandates under IDEA that consideration for every child with a disability must be given when developing the IEP.

On November 13, 1998, President Clinton signed into law the Assistive Technology Act of 1998 (ATA) which affirms that technology is a valuable tool that can be used to improve the lives of individuals with disabilities (RESNA, 1999). The ATA extends funding to the 50 states and six territories (American Samoa, District of Columbia, Guam, Northern Mariana Islands, Puerto Rico and the U.S. Virgin Islands) to develop permanent, comprehensive, statewide programs of technology related assistance. All states and territories are eligible to receive funding for ten years. States that have completed ten years in the program

(under the amended Tech Act of 1994) will have three additional years of federal funding to continue their assistive technology programs.

#### State and Local Assistive Technology Agencies

The New Jersey Protection and Advocacy, Inc. (NJP&A) is a consumer-controlled, non-profit organization that serves as New Jersey's designated protection and advocacy system for individuals with disabilities in the state. Protection and advocacy systems are provided under the federal law and are designated in each state and territory of the United States.

The New Jersey Protection and Advocacy, Inc. provides education, information and referral, legal and non-legal advocacy, and training in support of the human, civil, and legal rights of individuals with disabilities (New Jersey Protection and Advocacy, Inc., 1999). The agency is organized to protect and advocate for the rights of individuals with disabilities in pursuit of a society in which they exercise self-determination, choice and dignity. NJP&A's activities are directed at the inherent value and worth of all individuals and their right to equal opportunity and full participation in their communities (New Jersey Protection and Advocacy, Inc.).

As the designated protection and advocacy system in

New Jersey, NJP&A operates the Technology Assistive Resource Program (TARP) which was established in 1992 as New Jersey's Tech Act program. Originally located within the New Jersey Division of Vocational Rehabilitation Services, TARP moved to NJP&A in September, 1997 (New Jersey Protection and Advocacy, Inc.). TARP's purpose is to overcome barriers in the system and to make assistive technology more accessible to individuals with disabilities throughout the state. Services include information and referral, advocacy services, legal representation, used AT devices and presentations and outreach.

The Alliance for Technology Access (ATA) is a nationwide network of non-profit, community-based resource centers that provide information and support services to individuals with disabilities (National School Boards Association, 1997). Some centers serve only the state in which they are located, but other provide services to areas. The Alliance Centers provide information and referral, technical assistance and training services. The Alliance Centers emphasizes hands-on activities, evaluative services, product demonstrations, lending library resources, computer lab access, technology workshops, and professional development. These centers work in collaboration with commercial publishers to develop

effective products and provide assistance to school districts with assessment, support, and technical assistance to educational staff. The Center for Enabling Technology (CET) and the Computer Center for People with Disabilities are the alliance centers that serve the state of New Jersey.

#### Assistive Technology Devices and Services

Assistive technology devices may include a range of items, pieces of equipment, or product systems that may be used to increase, maintain, or improve the functional abilities of children with disabilities (Parette, 1997; Dorman, 1998). These devices may be acquired commercially off the shelf, modified, or customized. The broad definition includes virtually any tool which is used on a daily basis and has the potential to increase the functional abilities of children with disabilities (Parette, 1997).

According to Ashston (2000), a common misinterpretation is that all AT devices are computerized, extremely expensive, and require extensive training before it can become a functional part of one's life. Typically, there are three types of AT (Lewis, 1993; Ashston, 2000). These devices are adaptations of generic devices; additions to generic technology; and equipment and devices designed

to do that which generic technology cannot. *Adaptations of generic devices* are constructed by inserting an electronic form with speech. This would be considered AT due to the addition of components to meet the individuals' needs. AT devices that are *additions to generic technology* are created by making additions to the device that can change how the individual interacts with that device, for example, an "on" or "off" switch. Equipment and devices designed to do things that generic technology cannot are created when there is no common, traditional item available to complete a specific function. Such device may include augmentative and alternative communication devices and classroom amplification systems.

Within each of these categories, both "low tech" and "high tech" may exist in design (Parette, 1997; Dorman, 1998; Lewis, 1998; Morse, 1999; Ashston, 2000). Low tech devices tend to be simple, passive and have few moving parts. Typically they are inexpensive, easy to use, and require little training to use effectively. They may include such devices as grips, picture boards, taped instructions, and workbooks (Dorman, 1998). In contrast, high tech devices are more complex and often have an electronic component. They also tend to be more expensive and may require intensive training to use effectively.

These devices could be alternative keyboards, listening aids, speech-synthesis devices, voice recognition systems, data managers, talking calculators, variable speed tape recorders, and optical character recognition systems (Dorman, 1998).

Assistive technology devices have two major purposes (Lewis, 1993; Dorman, 1998; Lewis 1998): compensatory or remedial. A compensatory device helps the student to perform specific tasks using the assistive technology and provides an alternate mode of performing a task. Devices that are remedial serve to improve deficiency areas of the student and serves to counterbalance the effects of any disability. Depending on the severity of the student's disability, the IEP team should consider the least intrusive use of AT for that student (Webb, 2000). The primary function of the AT is to assist the student in the general education setting to the maximum extent.

Assistive technology service is "any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device." According to Parette, 1997, this includes evaluations of the technology needs of children; purchasing, leasing, or otherwise providing the acquisition of devices and equipment; selecting, designing, fitting,

customizing, adapting, applying, retaining, repairing, or replacing devices and equipment. It also includes coordinating and using other therapies, interventions, or services with assistive technology devices; training or technical assistance for the child with the disability and family members; training or technical assistance for professionals, employers, or others who provide employment services.

The seven layer model of human functioning as described by Ashston (2000), Blackhurst and Edyburn (2000), and Melichar (1978), can be used when considering AT for an individual with disabilities. The model focuses on the individual who may have concerns regarding existence; communication; body support, protection, and positioning; travel and mobility; environmental interaction; education and transition; and sports, fitness, and recreation. Concerns related to existence relate to examining the difficulties that the individual may have in maintaining the functions needed to sustain life. AT for communication would be used to maintain functions needed to understand and convey information. Body support, protection, and positioning devices would be considered when the individual is having difficulty with standing, sitting or positioning. Travel and mobility devices are used for the individual who



may have difficulty navigating his or her environment. Educational software and computer adaptations may be used with the individual experiencing difficulty with education and transition in a school setting. Modified sports equipment and adaptations may be used for the individual who would like to participate in sports, fitness and recreation activities.

#### Funding Assistive Technology

Application of assistive technology is costly. The equipment itself involves a substantial outlay of funds for purchase and maintenance. School personnel that see the benefit of assistive technology are often in conflict with the district's budgetary constraints. The best device for a student may be more expensive than what the district is willing to fund. Regardless of the funding source, the New Jersey Department of Education has established regulations that prohibit school districts from refusing to consider assistive technology devices and services as part of the IEP (Individualized Education Program) writing process (UCPA, 1999).

In an effort to minimize excess spending and/or abandonment of a device, there should be a system in place to determine the appropriate assistive technology devices and services based on its functionality and independence of

use (Scherer, 1991). Appropriate assistive technology solutions are determined on an individual basis following a comprehensive assessment (Parette, 1997). Appropriateness must be determined with regard to the extent to which the device or service will support the individual in accomplishing an individual or family goal or function that would not otherwise be attained. According to Parette, efforts should be made to select and implement devices and services that acknowledge and promote individual dignity and the opportunity for personal choice by both the potential user and the family. The devices and services should facilitate user changes in behavior that are observable and have social validity. The devices and services should be developmentally appropriate. Any device or service considered should be linked to anticipated educational outcomes, functional activities, and when desired, promote long-term increased independence for the user (Parette, 1997).

#### Benefits of Assistive Technology

Assistive technology can contribute to the learning of students with disabilities in several ways. Through the use of AT devices, many activities that can improve the quality of life become possible with a minimum amount of learning and physical effort (Bain & Ledger, 1997).

Technology advances provide opportunities for bridging the gap between non-disabled students and students with disabilities in terms of access and academic success (Camper, Giles-Gee, Johns, & Lecca, 1994). The appropriate AT device provides opportunities for students with disabilities to have more control over themselves and their environments. The use of computers can also provide students with disabilities the recognition and support that will promote self-esteem, self-confidence, and motivation (Male, 1988; Ryba, Selby, & Nolan, 1995). They have greater freedom of movement and participate in activities with their peers at home, school, and work and in the community. Educators must focus on devices and programs that enhance the way in which we bring information to the lifelong processes of teaching and learning (Camper, Giles-Gee, Johns, & Lecca, 1994). Providing appropriate learning opportunities for every student is important. Adaptations that enable full access to computers (and other technology) allow children with disabilities to demonstrate their capabilities (Ryba, Selby, & Nolan, 1995).

According to Bain, assistive technology devices are used to accomplish a task in a more effective and efficient manner. Accomplishment of this goal may vary according to the professional background, skills and aptitudes of the

team members. The process should remain constant for screening the student, analyzing the tasks to be performed, selecting the most appropriate device, training the student in the use and maintenance of the device, and following up on the functional use of the device in all environments.

### Barriers to Assistive Technology

Federal regulations and state mandates impose a tremendous burden on school districts. There are limited fiscal resources for the implementation of programs and services. Financial constraints are not only limited to the purchase and accessibility of assistive technology, there are other considerations:

1. The Child Study Team lacks knowledge of AT assessments and recommendations of appropriate devices and services. This results in the need to hire consultants or outside agencies to complete the necessary assessments.
2. Most teachers lack preparation and knowledge of appropriate integration of AT into the curriculum. Additional funds must be used to provide ongoing staff development.
3. Students often outgrow their devices. The cost for one child to receive a device and services may increase from one year to another.

4. Parents and school districts often debate on who should be responsible for the purchase and maintenance of devices when that device must be used at home and school.

These barriers to access pose a disadvantage to children with learning disabilities and disrupt the IEP process. Increased spending in an attempt to comply with federal and state regulations and eliminate barriers may force districts to exhaust their funds. Increased demands from parents and advocacy groups may force districts to seek financial resources with other agencies and form partnerships with these agencies in order to provide the recommended AT devices and services.

Since the implementation of IDEA, technology advances have increased the potential for integrating children with disabilities into the general education programs and for expanding their participation and other settings. With the support of AT, children with disabilities have learned to communicate more effectively, to control their environments, and achieve greater mobility (U.S. Department of Education, 1999).

The New Jersey Technology Assistive Resource Program (TARP) is New Jersey's Tech Act Project (NJPA, 1999). According to New Jersey's Protection and Advocacy, Inc., TARP's purpose is to overcome barriers in the system in an

attempt to make AT more accessible to Individuals with disabilities throughout the state. Some of TARP's services are information and referral, advocacy services, legal representation, presentations and outreach. Funds are used to establish collaborative partnerships with agencies to provide services.

In May 1997, Congress passed and President Clinton signed the Individuals with Disabilities Education Act of 1997 which updates and amends the IDEA. Congress' actions appeared to have strengthened the foundations of assistive technology provision by the nation's public schools. The 1997 IDEA Amendments did not change the definition of assistive technology device and assistive technology service, however the provision of assistive technology is no longer an option for school districts. When needed by the student, it must be provided (Golinker, 1997).

The 1997 IDEA emphasizes the full participation of students with disabilities in the general education curriculum. This will potentially increase the focus on the use of assistive technology to ensure that children with disabilities are given access to the general education curriculum. Assistive technology devices and services can increase the abilities of students with a wide range of disabilities to access, participate in, benefit from and

show progress in the general curriculum (Golinker, 1998).

Golinker suggest that support for AT can be expanded through the requirement, under IDEA, that performance goals be established for students with disabilities. He contends that one approach to developing performance goals may be assessed regarding disability classification. Such assessments would include health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status and motor abilities. As a result, assistive technology devices and services would become essential tools for students with function-limited disabilities to achieve goals related to vision, hearing, writing, speaking and physical development (strength, flexibility and endurance). These goals would be measured in addition to achievement and academic performance.

#### Case Studies

The Arc, a national organization on mental retardation, conducted a national survey to determine the degree to which students with mental retardation use assistive technology and to identify barriers (Wehmeyer, 1999). The survey found that in most cases, the number of students who could benefit from devices but did not have access to them exceeded the number who actually had devices.

The gap between the need and access emphasize the need for

the potential benefit of the new IDEA legislation. Particular focus is placed on identifying student's assistive technology needs instead of just identifying students who might need assistive technology.

Findings indicated that there were six primary barriers to access of assistive technology devices (Derer, Polsgrove & Reith, 1996; Wehmeyer, 1999). These barriers include: locating and procuring equipment; lack of time for training students and teachers to use the equipment as well as time to obtain and prepare equipment for use; high cost of devices and the lack of funds to access devices or services; and teacher knowledge and training in the area of assistive technology. The findings suggest that assistive technology is beneficial, but barriers like funding and the lack of information fail to bridge the gap between the intent of the Tech Act and the reality of identifying, obtaining and using such devices.

Research on preschoolers with disabilities and their families resulted in similar findings (Parette & Hourcade, 1997). The purpose of the study was to survey 50 states and 8 territories to determine current assessment practices used to prescribe augmentative and alternative communication devices for preschoolers with disabilities. The findings resulted in a discussion of the following



issues: services were often reported to be offered "to a limited extent" than to a great extent; and ease with which the device could be used and operated including the device's ability to improve the child's functional performance and identification of funding sources.

Additional findings related to service systems supported concerns regarding the identification of funding resources available for the purchase of devices and availability of service personnel to support provision of the device.

A two-year qualitative study of students who use a variety of assistive technology devices in school was conducted to determine the potential benefits of assistive technology in the lives of children with disabilities and their families (Todis, 1996).

The research found that several factors were present in situations where AT consistently met the students' educational and social needs:

1. Student and family goals and values form the basis of student's educational programs.
2. The acquisition and the use of AT were tied directly to student academic, social and personal goals.
3. Students, family and educators (including teachers, specialists and instructional assistants) worked as a team to select, obtain, implement and monitor AT.

4. Communication about all aspects of student's school program was frequent and honest.
5. Devices and equipment that were worn or outgrown were replaced. Those that were not meeting student needs were modified, replaced, or abandoned, either temporarily or permanently.
6. Both major and minor glitches were regarded as inevitable but solvable problems that were dealt with quickly and systematically by the team.

The research also focused on the parent's perspective of AT. Some parents were concerned that skills would be lost (such as speech or mobility) if their child become dependent on a device. Other parents viewed the use of AT as an opportunity for their child to interact more independently. However, the research cautions parent advocacy for AT. Often parents view the use of AT as a reaction to the widespread attitude in our society that there is a technological answer to every problem (Todis, 1996).

Parents high expectations of AT for their children frequently bring them into conflict with special educators and specialists. During conflicts, parents become frustrated with what they regard as the educators' lack of interest in the device, their low opinion of their child's

abilities or their lack of training or knowledge about AT (Todis, 1996).

School-based specialists with a knowledge of AT are often in conflict with the students' benefit from AT and the district's budgeting constraints. Often what the specialists recommends as the best device for a student may be more expensive than a device that may meet the basic educational needs and exceeds the cost that the district may agree to fund (Todis, 1996).

This study also found that there were few training programs for special education teachers to assist them with AT applications and issues (Todis, 1996). Willingness and enthusiasm can easily turn to frustration when teachers encounter implementation issues associated with AT.

## CHAPTER III

### METHODOLOGY

#### Introduction

This chapter explores the methodology of the research. The research is qualitative and is based on interviews of the director (in one case, a representative) of three agencies. The interviews were structured around open-ended questions that were developed prior to the interview sessions. The information in this chapter outlines the perimeters of the research.

It is expected that the results of the research will assist parents, children with disabilities, IEP teams, teachers and school administrators with finding ways to expand access to assistive technology delivery systems to students with disabilities. The research provides information supporting the implementation of IDEA and the mandates as it relates to the provision of assistive technology devices and services; teacher preparation; and availability of resources.

The results of the research are based on the perspective of agencies that advocate for children in need

of assistive technology devices and services.

#### Sample

The agencies interviewed included The New Jersey Protection and Advocacy, Inc. (NJP&A), The Technology Assistive Resource Program (TARP), and the Center for Enabling Technology (CET).

The New Jersey Protection and Advocacy, Inc. (NJP&A) is a consumer-controlled, non-profit organization that serves as New Jersey's designated protection and advocacy system for people with disabilities in the state. NJP&A is funded through private donations, project grants and grants from: U.S. Department of Health and Human Services/Administration on Developmental Disabilities/Center for Mental Health Services; U.S. Department of Education/Rehabilitation Services Administration; and the National Institute on Disability and Rehabilitation Research through the New Jersey Division of Vocational Rehabilitation.

NJP&A was incorporated in 1994 following the elimination of the New Jersey Department of the Public Advocate, which had previously been designated to provide protection and advocacy services. Since its inception, NJP&A has provided, free of charge: (a) education and training services to consumers with disabilities, family members, health care and service providers, legislators,

government administrators and others; (b) information and referral services; and (c) legal and non-legal case advocacy services.

The Technology Assistive Resource Program (TARP) was established in 1992 as New Jersey's Tech Act program. Originally located within the New Jersey Division of Vocational Rehabilitation Services, TARP moved to NJP&A in 1997. TARP is funded through the U.S. Department of Education, National Institute on Disability and Rehabilitation Research; New Jersey Department of Labor, and New Jersey Division of Vocational Rehabilitation Services.

The purpose of The Technology Assistive Resource Program (TARP) is to overcome barriers in the system and to make assistive technology more accessible to individuals with disabilities throughout the state. TARP's services include: (a) information and referral; (b) advocacy services and legal representation; (c) used assistive technology devices; and (d) presentations and outreach.

#### Information and Referral

TARP provides information on the types of assistive technology devices and services, where to obtain the devices and services, and the cost of such devices and services. Suggestions are made on resources available to

fund devices and services and the availability of used devices.

#### Advocacy and Legal Representation

TARP provides advocacy services and legal representation for individuals with disabilities who are denied access to assistive technology devices and/or assistive technology services.

#### Used Assistive Technology Devices

TARP supports a recycling program for used equipment, its mission is to provide an alternative source for assistive technology devices. The program acts as a clearinghouse for devices that are for sale or offered for donation or loan.

#### Presentations

Educational programs are provided to describe the benefits of assistive technology devices and assistive services, and to suggest strategies for obtaining assistive technology. Educational programs are offered to consumer groups, professional organizations, agencies, employers, and other groups interested in assistive technology.

Founded in 1991, The Center for Enabling Technology (CET) is a private, non-profit organization that helps children with disabilities gain access to computer technology. The center is linked to other computer resources centers across the country through its membership

in the Alliance for Technology Access. CET serves people of every age and any disability. Its mission is to find the technology tools that will increase independence and enhance participation in school, work, and leisure activities. Services are provided to schools and agencies that need training in assistive technology in an attempt to better serve those students with disabilities.

The Center for Enabling Technology offers: (a) technical assistance and information on the use of assistive technology for people with disabilities; (b) training workshops on adaptive computer use for teachers, therapists, parents of children with disabilities; (c) evaluations to help solve computer access and/or software selection problems related to educational, vocational and/or recreational computer use; (d) consultations with school districts regarding the assistive technology needs of students with disabilities, during the development and/or implementation of school district technology plans; (e) customized in-service training workshops for school districts on topics related to educational and assistive technology; and (f) Open Resource Time for families, professionals, and adults with disabilities who want to preview a variety of computer systems, software titles, and assistive devices.

#### Instrument

The interviews focused on various questions via an



Interview Protocol as they related to the implementation of IDEA and assistive technology, funding barriers and resources, outreach programs, teacher preparation, parental concerns, accountability and evaluation of services.

Questions 1, 2,3,4, and 5 focus on the implementation of IDEA'97 mandates and the assistive technology delivery system. The questions were used to determine if there was a need for agencies to change their delivery of services based on their interpretation of IDEA. These questions provoked some discussion on the accessibility of viable programs; improvement of existing programs and services; and the responsibility of the school district as a result of IDEA'97.

Questions 6 and 7 focus on the outreach programs available via these agencies. The research investigates the outreach programs to determine if underserved populations (urban, rural, low economic status, minorities) have the same access to the assistive technology delivery system.

Question 8 has a focus on the accountability of the agencies and how they document the delivery of services.

Questions 9 and 10 focus on teacher preparation, question 11 was incorporated to include Child Study Teams. These questions identify the considerations given to the expertise of staff members responsible for the implementation of services; and issues concerning staff development.

Questions 12, 13, 14,15,16, and 17 focus on the delivery of assistive technology from the parents' perspective and their concerns, if any, regarding assistive technology. The questions also focus on parent awareness of IDEA and how they exercise their rights.

Questions 18,19 and 20 focus on the funding issues regarding access to and availability of assistive technology devices and services.

Question 21 has a focus on the agencies prospective of AT and the future implications on how the delivery system will impact the lives of students with disabilities.

The Interview Protocol is available in the Appendix.

#### Data Collection

Data for this research was collected through interviews of state and local agencies that advocate the implementation of assistive technology devices and services. The purpose of the interviews was to collect data from the director of each agency (or a representative) in an attempt to obtain information on their perspective of the delivery of assistive technology services to children with disabilities in educational settings. Assurances were given through Informed Consent to the participants in an attempt to ensure confidentiality and anonymity. Participation in the research was voluntary. The

participants were informed that they were free to withdraw from the research upon request.

The agencies were invited to participate in a personal interview at the agency. The interviews were scheduled for an hour. Given permission from the agency, the interviews were tape recorded for accuracy when transcribing the interview.

#### Data Analysis

The report of the research is a qualitative analysis. The research includes a descriptive review of documents that trace the congressional notes and comments prior to the 1997 reauthorization of IDEA that influenced the changes in legislation for assistive technology devices and services.

The interview questions proposed to the agencies placed an emphasis on their perspective on how the revisions to IDEA have impacted the assistive technology delivery system. A description of differences across agencies and how the agencies respond to certain questions based on their mission will be extracted as a result of the research.

## CHAPTER IV

### Analysis of the Data

The following chapter describes the results of the analysis of data based on the interviews that were held with the three agencies: The New Jersey Protection and Advocacy, Inc. (NJ&A), The Technology Assistive Resource Program (TARP) and the Center for Enabling Technology (CET). The research includes a descriptive review of documents that trace the congressional notes and comments prior to the 1997 reauthorization of the Individuals with Disabilities Act (IDEA) that influenced the revisions for assistive technology devices and services. The information presented in this chapter will also allow us to examine differences across agencies and examine challenges, as well as, obstacles to overcome in the delivery of assistive technology devices and services to children in educational settings in the state of New Jersey.

#### Descriptive Review of IDEA

Review of federal legislation via the Federal Register (March, 1999) provided an explanation of the amendments to IDEA. The Individuals with Disabilities Act Amendments of 1997, is the statute that was passed by Congress and signed into law on June 4, 1997. It is the basis for the regulations that were issued by the United States

Department of Education on March 12, 1999 (Federal Register, 1999). The amended Title 34 of the Code of Federal Regulations (34 CFR), was a result of the revisions to the Assistance to States for Education of Children with Disabilities (Part 300) under Part B of the Individuals With Disabilities Act (IDEA). These regulations were needed to implement changes made by the IDEA Amendments of 1997; to make other changes to the Part B of the regulations based on relevant, longstanding policy guidance; and to revise the requirements of State compliant procedures under Part B (Federal Register). Several revisions were made, however for the purpose of this research, only those areas regarding the delivery system for assistive technology will be discussed.

On October 22, 1997, Richard W. Riley, Secretary of Education, published a notice of proposed rulemaking (NPRM) in the Federal Register to amend the regulations governing the Assistance to States for Education of Children with Disabilities, Part 300. The purpose of the NPRM was to implement changes made by the IDEA Amendments of 1997, P.L. 105-17 (Federal Register). In response to the Secretary's invitation to comment on the NPRM, individuals, public agencies, and organizations submitted written and oral comments to the proposed amendments. The perspective of individuals and groups of parents, teachers, related service providers, State and local officials, individuals with disabilities and members of Congress were influential

in identifying the areas where change was necessary in the proposed regulations. The comments and discussions will be reviewed along with the revisions regarding the delivery of assistive technology under IDEA'97.

Revisions to IDEA were made to redefine assistive technology device and assistive technology service; the role of the IEP team (consideration of special factors); and requirements to ensure availability of assistive technology.

#### Assistive Technology Device and Service

Part 300.5, assistive technology device was defined as any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability (Ideapractices, 1999).

Part 300.6, assistive technology service was defined as any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device (Ideapractices, 1999). This term includes: (a) the evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment; (b) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities; (c) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive

technology devices; (d) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;

(e) Training or technical assistance for a child with a disability or, if appropriate, that child's family; and (f) Training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of that child.

Prior to this amendment, comments from interested parties were made recommending assistive technology devices and services be listed as a related service, as well as defined separately in the regulation. Some commenters recommended changes that would alter the statutory definition of the terms. Additional requests were made that the definitions be amended to add language clarifying assistive technology devices and services should be required for a disabled child if necessary for the child to benefit from special education.

Other comments stated that the regulations should clarify the public agency's responsibility for providing personal devices, while other commentaries recommended that the regulations make explicit that public agencies are not responsible for providing personally prescribed devices

under these regulations. Requests were also made that the regulations include examples of assistive devices for children. Additional requests were made for clarification on how school districts draw distinctions between a child's need for an assistive technology device and a parent's desire for their child to have the newest and best device available.

Considerations were given based on the comments and it was decided that the definition of assistive technology device and assistive technology service in sections 602(1) and 602(2) of the Technology-Related Assistance for Individuals with Disabilities Act of 1988, amended 1994, (the Tech Act) are substantially identical. As a result, there was no need to make changes to the definition in the final regulations. The words "child with a disability" were substituted for the statutory reference in the regulation to be consistent with the Tech Act. This would provide clarity for those who the device or service should be considered.

The regulation specifies that an assistive technology device or service is only required if it is determined through the IEP process. This would include special education as defined in 300.26; related services, as defined in 300.24; or supplementary aids and services, as defined in 300.28. It was decided that further clarification of the definition was not needed under special education or supplementary aids and services.



In an attempt to clarify the public agency's responsibility it was determined as per the discussions that public agencies are not responsible for providing personal devices such as eyeglasses, hearing aids or braces that a disabled child may need; regardless of whether the child is attending school. However, if the IEP team determines that such a device is needed to ensure FAPE, then the public agency is responsible for the provision of the device at no cost to the parent.

The discussions also determined that examples of assistive technology were not needed within the regulation as recommended by the commenters. Justification for this decision was made by stating that the definitions of AT devices and services have been included in the regulations for more than five years. It has been included in the Tech Act since 1988. It was determined that most public agencies should already be familiar with the devices and services that would be relevant to implementing the regulations.

It was also determined that the language in section 300.308 (Requirements to Ensure Availability) would provide a sufficient explanation to determine a child's need for an assistive technology device or service. Therefore, further distinction between a child's need and the parent's request (or desire) was not necessary.

#### The Role of the IEP Team

Part 300.346(a)(2)(v) refers to the development of the

IEP (Individualized Educational Program). During the development of the IEP, the IEP team must consider whether the child requires assistive technology devices and services.

Individuals commented that if assistive technology devices or services are recommended and not provided, the IEP must include a statement to the effect and the basis to which the determination was made. Others commented that having to document such devices and services would be considered as unnecessary paperwork burden.

Recommendations were made requiring that decisions about the need for assistive technology be made early enough so that they can be implemented in the beginning of the year. Clarification was needed to determine if the child had the right to take the device home. This brought about concerns regarding liability issues regarding the child's use of a family owned device in school and other waiver liability issues. An additional request was made that the significantly positive effect on the attainment of annual goals and participation in the general curriculum be noted in the IEP.

Discussions of such comments concluded that the regulation adopt verbatim the new statutory requirement of section 614(d)(b)(3)(v) of the Tech Act, making it mandatory that the IEP team consider each child's assistive technology needs. The IEP team must determine whether a disabled child should receive assistive technology, if so,

the nature and extent of the device or service should be provided to the child. This revision to the regulation will ensure that each child's IEP considers the need for assistive technology on an individual basis.

Determinations regarding provisions of assistive technology must be made when the child's IEP for the upcoming school year is completed so that implementation of the IEP may begin at the start of the new school year. The revision is based on parents reporting that Local Education Agency's (LEA) were not properly considering their child's need for assistive technology.

In an effort to reduce the paperwork burdens, no additional documents were required from the LEA indicating that the IEP team considered a child's need for assistive technology. It was not necessary to add clarification regarding the importance of outlining the child's assistive technology need in the IEP goals and objectives or in issues relating to the child's participation in the general curriculum.

Special factors contained in paragraph (a)(2) of this section must be reflected in the content of the child's IEP, including the instructional program and services provided to the child, the annual goals, and the child's involvement in and progress in the general curriculum. All needs of the child must be considered in this section including the need for assistive technology to appropriately address the child's participation in the

general curriculum.

It was noted that issues regarding whether assistive devices or services can be used at home, and issues regarding liability for family-owned devices used at school are addressed in the discussions of sections 300.5-300.6 (Definitions of Terms) or section 300.308 (Requirements to Ensure Availability). Therefore, further clarification on this issue was not considered necessary.

#### Requirements to Ensure Availability

Part 300.308(a), assures that each public agency shall ensure that assistive technology devices and/or services are made available to a child with a disability if required as part of the child's special education; related services or supplementary aids and services.

Part 300.308 (b), mandates that on a case by case basis, the use of assistive technology purchased by the school may be used in the child's home or other settings, if the child's IEP team determines that he child needs access to the device in order to receive FAPE (Free Appropriate Public Education).

Based on the proposed regulations, some individuals expressed support agreeing that disabled students must have the tools they need to succeed. Others requested that a note be added to the regulation to describe the assistive technology devices that would be available for children with hearing impairments, including deafness. Others commented on the need to list specific devices.

Discussions concluded that although the comments made regarding assistive technology devices for children with hearing impairments were considered appropriate, it was not necessary to list the devices in the regulations. It would be considered inappropriate to list assistive technology devices for one disability category without listing such devices for other disabilities.

Further discussion indicated that under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, local education agencies are responsible for providing a free appropriate public education to qualified students with disabilities. To ensure FAPE for an individual student, the devices must be provided at no cost to the student or the family.

These comments and discussions supported the revisions to the Individuals with Disabilities Act of 1997. The amended regulations set forth the federal statutes that are to be implemented at the State and local level. The New Jersey Administrative Code, Title 6A, Chapter 14 (NJAC 6A:14) enforces implementation of such regulations. It is the interpretation of this code that has created some misunderstanding of the intent of the regulations. As a result, there has been a need for public agencies, school districts, IEP teams, administrators, children with disabilities, and parents to change the manner in which they seek resources for the delivery of AT devices and services to children with disabilities. Advocates and

agencies who defend the rights of children with disabilities have become strong supporters of the AT delivery system, primarily because the provision of such devices and services are mandated through IDEA and NJAC 6A:14. Secondly, the use of AT has an impact on the child's quality of life, which includes his or her education.

The second part of this research was based on interviews of agencies that advocate for assistive technology devices and services on behalf of children with disabilities in the state of New Jersey. The interview protocol focused on IDEA mandates; accessibility; accountability; staff development; parental involvement; funding; and future implications.

The review of the federal legislation provided a way to respond to question one of the research. The agencies responded to concerns regarding the impact that the legislation has had on the delivery of assistive technology. Question one also has a focus on the services provided by each agency, which are supported by IDEA and the Tech Act. A brief overview of the services provided by these agencies is presented in this chapter. However, a full description of the range of services provided by the agencies is described in Chapter Three.

#### Services Provided by the Agencies

The agencies were first asked to provide a description of the programs and services offered to

children with disabilities in compliance with the New Jersey State Tech Act Project. Essentially all of the agencies make the same services available to children as well as adults. It should be noted that the order in which the agencies are described below, and the manner in which responses to questions are recorded, does not represent the order in which they were interviewed.

The first agency to be interviewed, The Technology Assistive Resource Program (TARP), is responsible for implementing New Jersey's Tech Act. TARP is funded by a federal grant from the United States Department of Education through the National Institute of Disability Rehabilitation and Research. The agency's responsibility is to assure that all New Jersey residents receive the assistive technology they need.

One of TARP's mandated initiatives is to focus on AT in special education. Through a variety of activities, TARP is committed to making parents and educators more aware of the range of AT that may assist children with disabilities. The agency provides advocacy, legal and non-legal representation, training and technical assistance, outreach programs and technical assistance and public awareness activities. The agency also promotes interagency facilitation. Its' primary impact on children with disabilities is advocacy and outreach to parent groups and training to educational groups.

The second agency to be interviewed, The New Jersey

Protection and Advocacy, Inc. (NJP&A), is a private, non-profit organization that serves as New Jersey's federally funded protection advocacy systems for individuals with disabilities in the state. NJP&A is funded through private donations and project grants. Its' protection and advocacy systems were developed for individuals with disabilities and includes children. The agency is structured in such a manner to provide services relative to meeting the needs of groups of individuals based on their specific disability. The Protection and Advocacy for People with Mental Illness (PAMI) program was established for individuals with mental illness and embraces children who are in institutions or who are in community placements short term. The Protection and Advocacy of Individual Rights Program (PAIR) was developed for people who are not eligible for services under the PAMI program. This program provides services to children with disabilities who are in school, if they are not developmentally disabled or mentally ill. Most of the support for special education programs is administered under the PAIR component of services. The Client Assistance Program (CAP) was designed for individuals who are participating in a rehabilitation program or seeking services through a rehabilitation facility. This program also supports the transition planning for children age 14 under the IDEA regulations. It provides assistance to parents in developing transition plans and activities for their child. The Protection Advocacy for Assistive



Technology (PAAT) is funded to provide advocacy services for provisions related to assistive technology. TARP is the fifth program of services provided through this agency. Its' services have been described previously in this chapter.

The third agency interviewed, The Center for Enabling Technology (CET), is a private, non-profit organization which helps children and adults who are disabled gain access to computer technology. The center provides information and training on appropriate applications of computer technology; opportunities for disabled children and adults to become skilled users of computer technology; support to parents and professional in their efforts to integrate computer use in schools; and technical support to disabled adults who need access to computers for employment.

One of the primary functions of this agency is to administer assistive technology evaluations for children with disabilities based on referrals from parents and/or the school district. The result of this evaluation determines the type of assistive technology device and service that a student will need to support full integration into the educational setting. Technical support is provided to the school district and staff development activities are scheduled at the center such as workshops for teachers and Child Study Teams and other interested parties.

### IDEA Mandates

The agencies were asked questions regarding the IDEA mandates to determine whether the amended IDEA'97 has had any significant impact on the delivery of assistive technology (AT) devices and services to children with disabilities and their families.

When asked if they experienced a misinterpretation of need or abuse of requests for AT devices and services based on the definitions of "devices and services", two respondents had not had such experiences. It was reported that the amended IDEA has not made a substantial difference or impact on families and children with disabilities. According to one of the agencies, "most individuals with disabilities and their parents do not really know the regulations outlined in IDEA and require a lot of education to make them more aware of their rights." Yet, another agency found that there has been a misinterpretation of how AT should be used to the extent that "a request for something simple could be made complex because individuals don't really know how to define or describe AT". Individuals are not familiar with the variety of resources that are available and are often unsure of what is required to meet the needs of an individual with a disability. As a result, the request for AT could be a variety of items that would not necessarily benefit the child.

The agencies were asked to describe the impact that IDEA'97 has had on AT services. They provided similar

responses indicating that there has been an increase awareness of the regulations at the school level. However, one agency reported that IDEA'97 has not made a significant impact on parent awareness or involvement in the process for obtaining access to AT devices and services. According to one of the agencies, "only a few parents are keeping abreast of changes in the regulations. The most informed parents are those who align themselves with an advocate or parent organization". To this extent, parent awareness of their rights has increased. The agencies also reported that IDEA'97 has begun to change the perception that only students with severe disabilities (those in wheelchairs or already using augmentative devices) could benefit from AT. School districts are beginning to recognize the potential for all students with disabilities.

Overall the agencies have reported a small increase in the need for advocacy services since IDEA'97. Individuals including teachers, parents, administrators and students with disabilities are just beginning to understand how the provision of assistive technology can impact the quality of education. One respondent indicated that this has been a slow process, but felt some relief since the Department of Education is starting to develop a "Technical Support Pilot Project". This project is in its' early stages of development and is being designed to provide technical support to school districts to ensure the provision of AT devices and services in schools. Such an initiative

suggests that the department recognize a need to develop expertise of AT within the department in an effort to be a better resource to school districts.

Under IDEA'97, school districts have an obligation to provide AT devices and services to children with disabilities at no cost to the parent. One agency suggested that "there is a need to develop a thorough information referral and training program to assist school districts; this would be a large scale educational effort to help districts understand their obligations." The agencies did not deviate from the regulation in their response to the question regarding a district's legal obligation to provide AT devices and services. All agencies agreed the regulations mandate provisions regardless of funding issues that concern the district.

IDEA and NJAC regulations indicate that the IEP team must consider whether the student requires AT devices and services. Yet, one agency reported that there was a concern with the definition of "consider" the need for AT as stated in the regulations. One agency was concerned that "beyond this statement in the regulation, there's nothing that indicates an obligation in the (state) IEP." It should be noted that this statement is consistent with the public comments made to the IDEA'97 amendments regarding the role of the IEP team. As stated earlier, in an attempt to reduce the "paperwork burden", no additional documents are required in the IEP to indicate that the IEP team

considered whether a child could benefit from AT.

It was reported that some people do not know the parameters to consider AT or how to obtain the device or service. In this case, school districts have sought the support of advocacy agencies to identify resources for the acquisition of AT. This includes requests for AT evaluations, where to purchase devices (at the best price) and implementation of the service. It was also reported that school districts have become dependent on the agencies to provide information and support, since there are no real guidelines established by the Department of Education.

Research question two speaks to the ways in which agencies support the delivery of AT services to children with disabilities. This question addresses the issues of accessibility and accountability.

#### Accessibility

Questions were asked to determine if all children with disabilities have equal access to the AT delivery system based on the provision programs and services through the agency regardless of ethnic and economic background. One agency reported that there is an outreach coordinator on staff who collaborates with agencies and community based organizations to assist minority groups or underserved populations with their specific needs. The agency also targets consumers with mental illness with an increased focus on contracting services for centers for independent living. According to another agency, "there is a

tremendous effort to collaborate, disseminate information, and organize support through churches and other community based organizations, with a primary focus on where minority groups have community contacts".

Although this practice appeared to be common among all agencies, one agency reported that organizing such efforts is a slow process. The agency expressed concern with barriers to accessing AT; "a major barrier is the lack of funding resources that will make collaborative efforts more successful."

#### Accountability

The questions in this area focused on the agency's documentation of programs and resources that support the delivery of AT devices and services. When asked to describe evidences or procedures for accountability in an effort to provide support and resources to children with disabilities, the agencies described procedures that are mandated via agency policies or state and federal mandates. One agency shared that, "any recipient or sub-recipient of federal funds under the Tech Act, are required to submit assurances to the Department of Education. These assurances indicate that the agency will comply with established guidelines".

It was explained that there are many levels of accountability because federal funds flow through the state and then through the agency. As part of the documentation for accountability, this agency must submit a "continuation

grant application" which highlights the specific intent of the agency on a timeline. This agency also maintains a yearly contract with the state and issues quarterly reports. Reports are submitted annually to the federal government.

There is also an internal process for maintaining statistics on the numbers of referrals received by the agency. The agencies maintain a system for contacting those who made the referrals in an attempt to provide ongoing support and resources. This information is also used to determine the needs of school districts and parent groups in terms of workshops and other services on a global basis.

It was also reported that certain records are considered confidential and are not submitted as part of the accountability documents. These reports are used to maintain a case management system and may include intake data that are used to meet the needs of a particular student or client.

The research was also concerned with understanding the contributing factors that impact on the success or failure of the Tech Act. Research question three revealed a number of issues that emerged through the interviews. Staff development, parental involvement, and funding has a tremendous impact on the implementation of the assistive technology delivery system. The following addresses these issues however, there was a specific research question on

funding which will be discussed on page 75.

#### Staff Development

The questions on staff development provided a discussion with the agency's director or representative on whether there is a need to train and provide inservice to teachers, administrators, IEP teams and support staff to effectively deliver AT services to children with disabilities. All agencies expressed a sense of frustration with the current educational institutions responsible for preparing teachers for their professional careers. This was reflected by the following quote from one of the agencies: "We like to think that it's (assistive technology) being embraced and included more extensively but, unfortunately, I don't think it is. They need to do that a lot more in this area to ensure that there is teacher preparation." It is understood that not everyone could become an expert in assistive technology, but there should be some obligation to provide a knowledge base for teachers. It was reported that there is a need for a "university affiliated program". This program or module would not teach you how to access an individual for AT, but it will enhance one's awareness. The recommendation made by the agency was exemplified with the following statement: "The program should be a historical perspective with a core curriculum that speaks to the history of the Tech Act. It should include information on the range of AT available, funding sources and advocacy." This course should not be



limited to those teachers in the field of special education. One agency suggested that "with the thrust to include all students into the general curriculum, teachers in early childhood education and elementary education should also be required to take this course". One agency expressed a concern regarding the competence of the college professor who would be responsible for training new teachers. The same agency expressed that "unfortunately, professors who have been teaching a long time, like teachers, don't know how to infuse AT into their courses". It appears evident that universities will need some support in the development and implementation of such a program.

Another agency recommended "pre-service" and "in-service" training at the district level, which would include Child Study Team members as well as teachers. Pre-service would include educational training at the university level and extend into a collaborative model with the school district. This would become a part of the in-service at the district level, which would include consultants or experts in the field of assistive technology. The respondent shared that "this would expand the knowledge base of teachers giving them the tools needed to provide a continuum of resources to children with disabilities." This would also include the selection, maintenance and repair, integration of the device in the home (parent and sibling training) and integrating the device into the instructional setting. This effort would

be "an attempt to eliminate the frustration with how information is filtered down to teachers". There appears to be the a concern in general in regard to the way in which teachers are trained to implement strategies or resources in a practical or "real life" educational setting.

It was also recommended that the New Jersey Department of Education create positions for Assistive Technology consultants and make them available to teachers. The intent would be to align a trained technology expert to a specific district as a resource. This agency recognize that "some districts have considered teacher preparation as a focal point to the extent in which they do provide training to ensure that teachers become familiar with the latest advances in AT, understand what might be available and how to assist their students with it. However, this does not apply to the majority of school districts."

One agency mentioned teacher preparation as a concern when responding to question #2 when asked if there was a misinterpretation of need or abuse of AT devices and services. As part of the response, the agency reported that "such misunderstanding about AT is based on the lack of knowledge of the professionals in the field of education. They (the educators) are capable of reading the text as it relates to AT, but the text itself doesn't convey much meaning to the reader if they don't have a knowledge base."

At the time of this interview, only one college was identified (or mentioned by the agencies) in the state of New Jersey that offers a course in Assistive Technology as part of the curriculum for the undergraduate program. There was a consensus that the systems in charge of teacher preparation do not adequately address the needs of students with disabilities and this includes consideration for AT. One agency was hopeful that with the New Jersey Department of Education Professional Development Providers Systems, "teachers will opt to seek opportunities to broaden their knowledge base on assistive technology". With the 100 hours of required training over a five-year period, "teachers may choose to attend workshops, conferences, and research other staff development opportunities in an attempt to learn more about the assistive technology delivery system".

#### Parental Involvement

Questions were asked to determine the extent to which parental involvement influences the delivery of AT devices and services. Discussions focused on the awareness of parental rights and how they exercise these rights in an attempt to ensure that his or her child receive the AT that is requested (based on the agency's interpretation). One major concern among parents is that school districts are resistant to providing AT in spite of the mandates established in IDEA '97. So funding becomes a major issue. School districts have a budgetary concern based on the

impact that such a request may have on funds that have not been allocated for such purchases. One agency reported that "school districts are not being responsible and getting the district to understand their responsibility is an issue. As a result, intervention through advocacy is often warranted." This issue only addresses those parents who are familiar with the code and knowledgeable of their rights. One agency's response was consistent with statements made when responding to questions that referenced IDEA mandates. The same agency suggested that "there is a large population of parents who are not aware of IDEA and its' benefits; and fewer parents who are aware of assistive and its' benefits." Advocacy agencies assist these parents by helping them to understand the language of the code, documentation of need, and advise them of their rights. If necessary, the agencies will provide legal representation. Another agency reported that "this affirms the need for community based outreach programs that will provide information to parents so that they become advocates for their own children".

Once the funding barrier has been eliminated, parents second concern becomes how the device will be used in the educational setting (this includes training the student, as well as, the teacher). Parents are also concerned with the maintenance and repair of the device. These concerns are related to services that should be provided to support the AT device once it's purchased. Parents feel that

unfortunately, the burden "ultimately becomes their responsibility to ensure that the district implements the device effectively".

During the interview process the funding of assistive technology devices and services was a major concern of the agencies. These concerns responded to research question four.

### Funding

Issues regarding the resources needed to fund AT devices and services often impact on the delivery system. The questions presented to the agencies provoked a discussion on how funding impacts on the provision of AT devices and services. The agencies agreed that securing AT devices and services is difficult because this is a mandate that is not funded through the Department of Education. Since the obligation lies with the local school districts, there needs to be an attempt to establish creative partnerships. One agency shared an example of how such partnerships would be effective: "There ought to be some partnerships with the private sector to get them to underwrite the support of AT for children with disabilities so that funding would not be a barrier. You still might have the barrier in terms of education, but funding ought not be the barrier."

In response to the question regarding the districts' obligation, and if such obligation eliminates funding through loan programs and insurance companies, the agencies

provided information on a variety of options. One agency recommended that the district utilize a "recycling program". School districts should maintain a viable recycling program to reduce the cost for purchasing new equipment whenever there is a request for AT. These devices are often abandoned once the student outgrows it. These devices should be refurbished and made available to another student. This was exemplified by one agency's response, "if school districts would take ownership and participate in this process, it would be an effective way of reducing cost".

Students transfer to other districts or graduate, again the AT is abandoned. To eliminate this problem one agency responded that "we've looked at some of the interpretations out of the Department of Education. They are suggesting that if funds are used out of IDEA, the ownership of the AT could be transferred to another state agency." A transition to another agency or reimbursement of funds to the district may be possible. The same agency warned that "some may be resistant to transfers or 'buyouts' because you would have to develop protocols and different procedures, so it becomes easier to just purchase the device."

Another agency suggested that "under IDEA, clearly school districts are responsible, but we would hope that if parents have private insurance that they could use, they would use it". Often when insurance companies are involved

there is some discussion whether the AT is a medical need or educational need. This also delays the process for obtaining the device and services. The same agency felt compelled to remain school districts of their responsibility with the following statement: "The fact of the matter is that schools are responsible, it is the way to ensure that the student is going to receive FAPE."

The intent of the research was to obtain information that would provide assistance to parents, children with disabilities, IEP teams, teachers, and school administrators with ways to expand access to the assistive technology delivery system. Question 21 of the Interview Protocol was designed to obtain suggestions from advocates of assistive technology in an effort to gain some perspective on the changing role and responsibilities of service providers. This includes other agencies, federal and state representatives, policy makers, and school districts. Implications for future practice and recommendations for future research are discussed in Chapter Five. However, the agency's perspective of future implications for AT is discussed in this chapter as part of the direct feedback during the interview.

#### Future Implications

The agencies were asked to share their prediction of future promises for the delivery of AT devices and services and how these predictions will impact the lives of children with disabilities. One agency made the following

prediction: "At some point, it will probably be the most significant event for individuals with disabilities. It is going to enable them to function in the community and an active participant of the community. Probably the most important factor is that technology is so much a part of everyday life now. For children with disabilities not to have access to technology so that they may function in the community and their school is ludicrous." This issue will no longer be an issue for children with disabilities in special education programs. Any child who needs or can benefit from AT in order to participate in an educational setting should be given access.

One agency has begun to experience a shift in the types of requests for advocacy. With the trend of adult children caring for their elderly parents, services are being sought to assist with care. The elderly continue to be active members of their communities. They require the same access to community-based programs and supports that will foster independent living in their home. It is evident that a full continuum of services must be provided from birth through the senior years.

Another agency referred back to teacher preparation: "teacher training on the undergraduate level is going to be a big move. Teachers will become more receptive to learning more about AT. We will see more AT in the classroom as teachers, and administrators begin to use computers themselves."



The agencies agreed that many barriers still exist, "there are still not a lot of people who are certified as AT technicians". It will take some time to educate students, parents, teachers, and administrators, but now that the "state and federal regulations are consistent with the support of the provision of AT, change is inevitable. Technology changes everyday and there's no end to the possibilities."

## CHAPTER V

### SUMMARY AND DISCUSSION

This research was driven by four research questions with the goal of trying to find answers relative to accessing assistive technology devices and services for students with disabilities. These questions were developed to generate an understanding of the impact that the IDEA amendments of 1997 has had on assistive technology (AT) delivery systems, teacher preparation and availability of resources. The information presented in Chapter four was used to isolate significant factors that affect the implementation of the Technology Related Assistance for Individuals with Disabilities Act, known as the Tech Act, based on the perspective of the three agencies interviewed. The advocacy role of these agencies must be taken into consideration when drawing conclusions and inferences from their responses. (It should be noted that the research reflects the 1997 amendments of IDEA that were influenced by the Tech Act of 1994. The new Tech Act, the Assistive Technology Act of 1998 was established following IDEA'97. References to the Tech Act in this research are related to the amended Tech Act of 1994.)

The information presented in Chapter Four provided us with insights into the similarities between the agencies,

as well as, supports that have been provided to parents of children with disabilities, students with disabilities, and school districts that are responsible for the education of students with disabilities. The chapter also contained information on the challenges and obstacles that are needed to overcome in order to provide a continuum of assistive technology supports.

The findings of the research revealed that there are several factors that impact on the delivery of assistive technology devices and services. The contributing factors relate to the interpretation of IDEA and the Tech Act, and the intent of the legislation and regulations outlined in IDEA and the New Jersey Administrative Code (NJAC).

Other factors that were found to impact on the AT delivery system in the state were accessibility and accountability. For example, the agencies reported that there should be an attempt to develop systems that will promote access to AT for all children with disabilities. These systems should be available in all communities regardless of ethnic background or economic status. These factors determine the extent to which AT services and devices are made available to children with disabilities in the state of New Jersey.

Staff development, parental involvement, and funding also seemed to have influenced the effective delivery of AT devices and services. The agencies reported a need to develop programs and services that will ensure that

information is adequately distributed and resources are readily available to parents and educators.

The 1997 amendments to IDEA strengthen parent rights and their role in the IEP meetings that address educational placement decisions for students with disabilities. Based on the responses from the agencies, parents are not familiar with their rights as described in IDEA and the New Jersey Administrative Code (NJAC). Parent awareness is often limited to advocacy. The research also revealed that funding AT presents the largest barrier to accessing the needed devices and services.

Lack of professional training and knowledge presented another barrier to accessing AT. With a primary focus on teachers, it was discovered that few teachers have the skills necessary to integrate the devices into the instructional setting.

#### Implications of the Research

Based on the research the revisions to IDEA have not made a significant impact on the delivery of assistive technology (AT) devices and services to children with disabilities and their families. Most parents and educators are not familiar with the process for accessing AT. Yet, the few parents who are knowledgeable have a limited understanding of this process, which has resulted in some misinterpretation of the intent of IDEA'97. Most parents do not understand the language of IDEA nor feel that the school district has made them feel comfortable

when interpreting the language of IDEA. As a result, parent advocacy activities are often directed to the school district.

Without the existing laws, attempts to provide a free appropriate public education (FAPE) would not be possible. The procedural safeguards in IDEA require that students with disabilities receive FAPE in a classroom with their peers, in an environment in which they would receive an education if they were not disabled, the least restrictive environment (LRE). Such an education should be supported through the use of special education, related services and supplementary aids and services. Thus, there is a need to increase parent awareness of the programs available under IDEA that support the funding of AT devices and services: FAPE, special education, related services, LRE, procedural safeguards and staff development.

Educators also misinterpret the intent of IDEA and the NJAC. However, laws and regulations cannot cure the widespread concerns with compliance and discrimination against children with disabilities. Child Study Team members, school administrators and teachers often disagree on the most effective way to access AT. Although the district has the ultimate responsibility to implement AT, there are no assurances in place for accountability. Thus, there is a need for every school district in the state of New Jersey to develop policies for accessing AT.

Staff development is also needed at every level to

ensure that children with disabilities receive the AT devices and services needed. There should be opportunities for educators to learn about "best practices" in other school districts at the state and local level, so that effective practices are developed to select appropriate devices and services, and to fully integrate them into the classroom. There is also a need for appropriate training and technical assistance for teachers. Such training should begin at the college level as part of the required curriculum for teacher certification. Teacher training through staff development should continue at the district level as the needs of students with disabilities increases and as technology advances. Support should be ongoing.

There is also a need to increase the awareness and support of administrators who can influence change in the school environment. Thus, it would be helpful if the Department of Education implemented the Technical Support Pilot Project as suggested by one of the agencies in Chapter Four. Such an effort would be the state's attempt to assist school districts with the integration of AT devices and services in the school setting.

The research also revealed that funding is a major barrier for school districts. Under IDEA and NJAC, school districts are obligated to provide the resources needed to fund AT regardless of cost, yet there are districts that refuse to provide AT based on budgetary constraints. These districts are noncompliant with federal and state

regulations. Therefore, it is necessary for school districts to develop funding sources that would not have a direct impact on their budget. Consideration should be given to establish creative partnerships as recommended in Chapter Four by one of the agencies.

School districts should consider partnerships with community based organizations and major cooperations. They should also apply for grants that would guarantee funds upon approval. The grant should be written to support the cost of the device; maintenance and repair of the device; and training on the use of the device for the student and the teacher. Training for the parent and siblings should also be included in the cost if the student is expected to take the device home to complete assignments.

School districts should also develop a mechanism to recycle AT devices that students have outgrown or abandoned. This would enable them to utilize all available resources and reduce the cost of those devices that are not custom made for a specific student.

Students with disabilities need the support of AT to perform at their maximum potential in the educational setting, as well as, to become an active member of their community. Every attempt should be made to ensure that they have immediate access to needed devices and services. The barriers discussed in this chapter should not impede the delivery of devices or services.

Advocacy agencies in the state of New Jersey support

the rights of students with disabilities with a mission statement that reinforces their commitment. However, there is a need for parents, teachers, and school administrators to create systems that will enable them to advocate on behalf of students with disabilities. This may be done in collaboration with the advocacy agencies, but there must be a commitment on behalf of all the interested parties.

Despite the fact that the Tech Act has been in existence for eight years (extended another three years under the new Tech Act through 2005), the state has been slow to establish guidelines and to provide technical support. Now that the NJAC is consistent with the IDEA and the Tech Act, it is hopeful that all of the regulations regarding the AT delivery system for children with disabilities will be implemented.

#### Policy Implications

The policy issues surrounding special education are subject to ongoing debate. School districts have mandates that they must implement, unfortunately, we often find that there are no real measures in place to ensure accountability. Some school districts provide assurances via a signature on a document. However, on site monitoring by representatives from the Department of Education, often result in a citation for non-compliance. As a result, school districts must begin to establish policies and procedures in an effort to ensure accountability.

Based on the research there is a need to establish a



policy that will ensure that parents of children with disabilities are familiar with their rights. Schools that operate under a Whole School Reform (WSR) model are required to have parental involvement and family activities as part of the model. These schools should begin to educate the members of their parent organizations so that they are familiar with the Individuals with Disabilities Education Act (IDEA) and their rights. Every parent should receive a copy of the Parental Rights In Special Education (PRISE), as well as, a copy of the New Jersey Administrative Code 6A:14 (NJAC). In addition, training should be provided so that the laws are interpreted in the language in which the parent can understand. These training sessions should also provide parents with opportunities to ask questions and to seek assistance that will allow them to make appropriate decisions on behalf of their children.

There is also a need for school districts to provide staff development on how to integrate assistive technology into the educational setting. School districts should take advantage of the 100 hours of continuing education units that teachers are required to accumulate during a period of five years. A policy should be established that would require a minimum number of units that must be earned toward courses or workshops that focus on assistive technology. These minimum requirements should be reflected in the Professional Improvement Plans that most districts

complete annually for every teacher. These requirements should not be limited to teachers (both special education and general education), but should also include members of the Child Study Team.

Modification to the existing IEP (Individual Educational Program) is needed in an attempt to document that the assistive technology needs for students with disabilities have been considered. The IEP should include a description of the devices and services, and a description of how the devices should be integrated into the educational setting.

Since funding has proved to be the largest barrier to accessing assistive technology, there is a need to establish a policy that will ensure the acquisition of devices and services when needed. There is also a need to establish a procedure on how to secure the devices and services. Schools maintain a budget in which they use to operate during the school year under the guidelines of WSP. This budget, often referred to as "zero based budgeting", provides the funds necessary to operate a school during the fiscal year. There should be a requirement for every school to identify an account within the budget that will be used specifically for assistive technology.

Guidelines should also be developed to identify procedures that should be followed to secure the devices and services. These guidelines would include the names and locations of consultants and vendors that have been

approved by the district's Board of Education in an attempt to avoid any further delay in the implementation of the students' educational program.

#### Implications for Future Research

1. Examine how the use of assistive technology devices and services influence learning.
2. Examine how instruction is delivered through the use of assistive technology.
3. Examine the impact of assistive technology from the perspective of parents of children with disabilities, students with disabilities, and teachers in both special education and general education.
4. Research the implementation of assistive technology from multiple perspectives including school districts and students.
5. Research colleges and universities that have developed a curriculum for assistive technology as a required course of study for teacher preparation.
6. Examine partnerships that school districts have established to eliminate funding as a barrier.
7. Compare the services available in urban, rural and suburban school districts.
8. Examine outreach programs in rural and urban communities to determine the effectiveness of such programs.
9. Conduct a comparison study of parent groups

representing different ethic backgrounds to  
identify their experiences in accessing assistive  
technology.

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**APPENDIX**

## Interview Protocol

### IDEA Mandates

1. What programs or resources does your agency provide for children with disabilities in compliance with the state's Tech Act Project?
2. Based on your agency's experience, do you find that the definition of AT devices in the New Jersey Administrative Code 6A: 14 has caused a misinterpretation of need or abuse of AT devices and services?
3. Based on your agency's experience, what impact has IDEA'97 had on AT services?
4. Have you found that there has been an increase in the need for services provided by the agency since IDEA'97?
5. What do you see as the school districts legal responsibilities to provide accessible technology for students with disabilities?

### Accessibility

6. Does the agency conduct a minority outreach?
7. Do you know of any other initiatives in the state that conducts outreach to underserved populations?

Accountability

8. How do you document your efforts to provide support and resources to children with disabilities (evidences or procedures for accountability)?

Staff Development

9. Do you feel that the increase of AT in the classroom impact teacher preparation for licensure and certification?
10. How do you propose that we begin to assist school districts with teacher preparation?
11. How do you propose that we begin to assist IEP teams with evaluations and recommendations for AT devices and services?

Parental Involvement

12. How does the state's Protection and Advocacy agency help parents to get assistive technology devices and services?
13. What impact has the new regulation made on the number of AT evaluations requested by parents or school districts?
14. What continues to be the concerns of parents and students in regard to access of AT devices and

services?

15. Does there appear to be a change in parent awareness regarding the rights of their child?
16. Do you believe that the definition of AT devices and services promote the misinterpretation and abuse of the number of requests from parents and advocates?
17. To what extent do parents and school districts requests for evaluations to outside agencies or consultants appear to be based solely on parental request or the districts need to consult with AT specialists? (Center For Enabling Technology only)

#### Funding

18. Prior to IDEA'97 families were encouraged to seek funding for assistive technology through Medicaid, Vocational Rehabilitation, loans or other sources.
19. Does the new regulation now hold school districts solely responsible for the acquisition of AT? Are there any options or other resources available? (The New Jersey Protection and Advocacy Inc. and the Technology Assistive Resource Program only)
19. Does the district's obligation eliminate funding through loan programs and insurance companies?

20. What federal funds are allocated to districts for the acquisition of AT? How does the district apply for these funds?

Future Implications

21. What are the future implications for the provision of AT devices and services?